

tion is given to the very large area of river lowlands in corn and other crops, there is no exaggeration in placing the value of the property jeopardized at \$1,000,000. Numerous calls were made upon the local office, and our suggestions were closely followed. In one instance a farmer had embankments thrown up to guard against our 20-foot stage forecast for Montgomery, and thus saved about 75 acres of corn, only to lose about 1,000 bushels later by the 23-foot stage, which, although predicted several days in advance, could not be guarded against. In another instance a farmer lost about \$1,000 worth of truck, this damage, also, being unavoidable. In other cases, where lowland corn was sufficiently matured for forage, many acres devoted to this grain were cut and saved. At least \$25,000 damage was done by this freshet, which no warnings could have averted.

The local press was most accommodating in disseminating the information, and warmly complimented the Bureau upon the timeliness and value of the warnings.

The stages in the Black Warrior and lower Tombigbee rivers, while not quite reaching the danger lines, were, nevertheless, sufficiently high to excite some apprehension in the

minds of the farmers and planters along their banks, and, on the 17th, they were advised to remove stock and portable property to higher ground.

Nothing of special interest was reported from the rivers of the Pacific coast system. They continued their steady fall throughout the month.

The highest and lowest water, mean stage, and monthly range at 134 river stations are given in Table VII. Hydrographs for typical points on seven principal rivers are shown on Chart V. The stations selected for charting are: Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport on the Red.—*H. C. Frankenfield, Forecast Official.*

## CLIMATE AND CROP SERVICE.

By JAMES BERRY, Chief of Climate and Crop Service Division.

The following summaries relating to the general weather and crop conditions are furnished by the directors of the respective sections of the Climate and Crop Service of the Weather Bureau.

[Temperature is expressed in degrees Fahrenheit and precipitation in inches and hundredths.]

**Alabama.**—The mean temperature was 78.6°, or 1.0° below normal; the highest was 104°, at Decatur and Madison on the 3d, and the lowest, 54°, at Maple Grove and Scottsboro on the 1st. The average precipitation was 8.86, or 3.42 above normal; the greatest monthly amount, 16.75, occurred at Daphne, and the least, 3.30, at Evergreen.

The general rain period from the 11th to the 23d was very injurious to corn and cotton, particularly the excessive rainfalls on the 15-16th; streams overflowed and inundated large areas of lowlands, doing great and in many cases irreparable damage to corn and fodder, while the continuance of wet weather wrought much damage to cotton.—*I. G. Gardiner.*

**Arizona.**—The mean temperature was 82.8°, or 0.2° above normal; the highest was 119°, at Fort Mohave on the 28th, and the lowest, 44°, at Taylor on the 20th and at Flagstaff on the 21st. The average precipitation was 1.82, or 0.55 below normal; the greatest monthly amount, 7.97, occurred at Nogales, while none fell at Gila Bend and Sentinel.

Weather conditions throughout the month have been very favorable to plant growth and crop development. The ground having been thoroughly soaked from the rains that occurred from the 1st to the 18th of the month, together with canals running full, the outlook in the irrigated districts for good fall crops is very promising. In the lower valley of the Colorado citrus trees are heavily fruited and are of thrifty appearance. The range is in excellent condition.—*L. M. Dey, Jr.*

**Arkansas.**—The mean temperature was 80.5°, or 1.5° above normal; the highest was 109°, at Jonesboro and Newport on the 3d, and the lowest, 52°, at Arkadelphia on the 7th and at Pond on the 23d. The average precipitation was 2.95, or 0.25 below normal; the greatest monthly amount, 3.05, occurred at Lutherville, and the least, 0.58, at Fort Smith.

Temperatures were high and the rainfall was very unevenly distributed during the first week of the month. Cotton improved in most sections, but was small and was shedding badly in some localities. Early corn was a decided failure, but the late planted showed some slight improvement. The second and third weeks the weather was characterized by temperatures about normal and rain in most sections, but unevenly distributed. Cotton was fair to good in most sections, but continued to shed and was being further damaged by rust. Late corn improved generally. During the closing days of the month higher temperatures prevailed and the rainfall, while heavy in some localities, was below the normal and was unevenly distributed. Cotton continued in fair to good condition, but it was still shedding and being damaged by rust; it had begun to open prematurely during the last decade of the month and picking had commenced, but was not general. Early corn had proved a complete failure and had been cut for fodder; late planted showed some little improvement. Late planted potatoes did not do well on account of lack of moisture. Fruits generally were a failure in most sections, while in others peaches and apples were abundant, but the quality was poor.—*E. B. Richards.*

**California.**—The mean temperature was 75.6°, or about normal; the highest was 124°, at Salton on the 26th, and the lowest, 24°, at Bodie on the 21st. The average precipitation was 0.12, or 0.05 above normal;

the greatest monthly amount, 2.50, occurred at Mammoth Tank, while none fell at about half of the stations.

Favorable weather prevailed during the month, and crops matured rapidly. In some localities, however, the comparatively low temperature retarded the development of grapes and late deciduous fruits. Heavy crops of wheat and barley have been harvested and mostly thrashed. The labor troubles are seriously interfering with shipments of grain and fruit.—*G. H. Willson.*

**Colorado.**—The mean temperature was 68.2°, or 1.4° above normal; the highest was 105°, at Delta on the 2d, and the lowest, 30°, at Wagon Wheel Gap on the 13th and at Breckenridge on the 21st. The average precipitation was 2.29, or 0.75 above normal; the greatest monthly amount, 6.53, occurred at Yuma, and the least, 0.36, at Marshall Pass.

One of the wettest Augusts in thirteen years. Precipitation came too late to save a large acreage of upland field crops, but was of material benefit to late corn, potatoes, and the third crop of alfalfa. Ranges also made marked improvement and at the close of the month were generally green—an unfortunate condition unless warm, dry weather should prevail during September.—*F. H. Brandenburg.*

**Cuba.**—The mean temperature was 81.2°; the highest was 97°, at Batabano, Holguin, and Los Canos (Guantanamo), and the lowest, 60°, at Santa Clara. The average precipitation was 5.13; the greatest monthly amount, 11.54, occurred at Pinar del Rio, and the least, 0.87, at Holguin.

Rains were very heavy in eastern and southern Pinar del Rio, and light in northern Santiago de Cuba; elsewhere they were fairly uniform and seasonal. The temperature changes were slight; the average temperature was about normal. Cane made good growth, but in some localities received too much moisture. The frequent showers interfered with field work. In Pinar del Rio sowing of tobacco seed beds was impeded by heavy rains; in other tobacco sections fair progress was made with beds and preparation of tobacco land. Small crops suffered somewhat from excessive moisture, but in most districts they made good advancement.—*W. B. Stockman.*

**Florida.**—The mean temperature was 80.4°, or 1.0° below normal; the highest was 99°, at Middleburg on the 1st, Micanopy on the 29th, and Middleburg on the 31st, and the lowest, 64°, at DeFuniak Springs and Marianna on the 4th. The average precipitation was 10.58, or 3.09 above normal; the greatest monthly amount, 19.75, occurred at Earnestville, and the least, 4.01, at St. Augustine.

Although precipitation averaged decidedly above the normal, the distribution was far from satisfactory. It was somewhat local, as evidenced by the wide range in monthly totals. The month was generally favorable for corn, but cotton had many setbacks. Excessive rains caused rust and shedding and at the end of the month picking was retarded by frequent showers. Cane, cassava, citrus fruits, sweet potatoes, and minor crops did very well. During the latter part of the month there was much activity in preparing lands for fall vegetables. Some tomatoes and Irish potatoes were planted; strawberry plants pushed forward, and much work was accomplished setting pineapple slips. The tropical storm which moved inland near the middle gulf caused considerable damage to cotton and corn, as a result of high winds and heavy rains.—*A. J. Mitchell.*

**Georgia.**—The mean temperature was 78.2°, or 1.1° below normal; the highest was 98°, at Allentown and Lumpkin on the 10th, and the lowest, 55°, at Clayton on the 1st, and at Diamond and Ramsey on the 2d. The average precipitation was 9.92, or 4.28 above normal; the greatest monthly amount, 22.07, occurred at Clayton, and the least, 3.22, at Camak.

The month was remarkable for the large amount of rainfall, which exceeded 15 inches at numerous stations in the northern portion of the State. With one exception, it was the wettest August in the past ten years, the average number of days with rain being 18. The thermal element was slightly below normal and without special feature. The minor crops of the State suffered little damage from the prevailing conditions, but the staple product, cotton, received a serious setback at a critical period of its life. Lowlands were flooded by the excessive rains, and some bottom crops were destroyed.—*J. B. Marbury.*

**Idaho.**—The mean temperature was 69.4°, or 3.1° above normal; the highest was 108°, at Garnet on the 13th, and the lowest, 29°, at Swan Valley on the 28th. The average precipitation was 0.53, or 0.11 below normal; the greatest monthly amount, 2.29, occurred at Swan Valley, while none fell at Garnet.

The month was deficient in precipitation in all parts of the State except near the eastern boundary, where there was an excess. The Boise River is dry for several miles in Canyon County, owing to excessive use of water in canals farther up the stream.—*E. L. Wells.*

**Illinois.**—The mean temperature was 74.7°, or 0.4° above normal; the highest was 108°, at Centralia on the 2d, and the lowest, 41°, at Lanark on the 4th and 25th. The average precipitation was 1.76, or 1.09 below normal; the greatest monthly amount, 5.96, occurred at Cobden, and the least, 0.05, at Zion.

Temperature conditions have generally been favorable for crops. Good showers occurred during the month over most of the State, and considerable improvement in crop conditions has resulted. In some sections the weather has continued dry, and crops have continued to deteriorate slightly.—*M. E. Blystone.*

**Indiana.**—The mean temperature was 75.0°, or 1.1° above normal; the highest was 103°, at Prairie Creek on the 2d and 9th, and the lowest, 44°, at Topeka on the 11th. The average precipitation was 3.06 or 0.02 below normal; the greatest monthly amount, 7.77, occurred at Seymour, and the least, 0.86, at Prairie Creek.

The abnormally high temperature and general drought that began in July, with correspondingly deleterious effects upon all vegetation, continued until about the middle of August. Much early-planted corn, corn on hill lands, and garden truck had been damaged beyond recovery; stock water and pastures had failed until watering from domestic wells and feeding was necessary in many localities. During the last half of August weather conditions were more favorable, and all crops not completely ruined took on new vigor and made rapid growth.—*W. T. Blythe.*

**Iowa.**—The mean temperature was 73.8°, or 2.7° above normal; the highest was 105°, at Pacific Junction on the 1st, and the lowest, 40°, at Forest City on the 10th and Washington on the 31st. The average precipitation was 1.29, or 1.78 below normal; the greatest monthly amount, 4.46, occurred at Sioux Center, and the least, trace, at Danville and Emerson.

The excess of temperature and sunshine and continued droughty conditions were quite unfavorable to pastures, potatoes, and late-growing vegetables. The corn crop made steady gains throughout the month in three-fourths of the State, giving promise of a much better yield than was deemed possible at the beginning of the month. Early corn was very near maturity and cutting was in progress at the end of the month; late-planted fields were making excellent progress. The soil was generally too dry for plowing and fall seeding.—*John R. Sage.*

**Kansas.**—The mean temperature was 79.1°, or 2.8° above normal; the highest was 110°, at Ness City on the 3d, and the lowest, 49°, at Jetmore on the 8th. The average precipitation was 2.61, or 0.07 below normal; the greatest monthly amount, 5.67, occurred at Hays, and the least, 0.71, at Dodge and Norwich.

There was a much better distribution of rain through the month than in July, materially improving condition of crops. Late corn, forage, pastures, peaches, and winter apples continued to improve, but the great heat of the 25th injured the corn in many eastern counties and cutting began. Plowing progressed favorably during most of the month, but the ground became too dry over a large part of the State by the last week.—*T. B. Jennings.*

**Kentucky.**—The mean temperature was 75.5°, or 1.1° below normal; the highest was 101, at Bowling Green on the 3d, and the lowest, 50°, at Anchorage on the 5th. The average precipitation was 5.12, or 1.67 above normal; the greatest monthly amount, 15.50, occurred at Alpha, and the least, 1.42, at Owenton.

The weather was quite favorable for all crops during the month. The temperature averaged about normal, and the rainfall was a little above normal. The drought which prevailed during the latter part of July was broken and all crops improved rapidly. The greatest improvement was in tobacco and late corn.—*H. B. Hersey.*

**Louisiana.**—The mean temperature was 81.9°, or 0.7° above normal; the highest was 105°, at Minden on the 17th, and the lowest, 52°, at Robeline on the 29th. The average precipitation was 5.46, or 0.47 above normal; the greatest monthly amount, 14.74, occurred at Port Eads, and the least, 1.86, at Minden.

The severe windstorm which passed over the southeastern portion of the State during the second decade of the month damaged rice. As a rule, however, the crop was doing well at the close of the month. Early rice was maturing, and harvest had commenced. Sugar cane

made good growth. Cotton was damaged some by dry weather, rust, and lice; shedding was complained of from nearly all portions of the State; picking had commenced, but was not general at the close of the month; preparations for fall gardens well advanced.—*J. M. Cline.*

**Maryland and Delaware.**—The mean temperature was 75.0°, or 0.7° above normal; the highest was 98°, at Sharpsburg, Md., on the 21st and at Denton, Md., on the 23d, and the lowest, 42°, at Sunnyside, Md., on the 11th. The average precipitation was 5.85, or 2.17 above normal; the greatest monthly amount, 12.05, occurred at Princess Anne, Md., and the least, 2.70, at Coleman, Md.

During August the rainfall was in excess in all parts of the section, with the exception of quite limited areas. There were no very cool spells or hot waves, although the temperatures were generally above normal from the middle of the month until near its close, and the entire period was a trifle warmer than usual. The weather conditions were favorable for corn, buckwheat, pastures, young grasses, the late hay harvest, and many kinds of truck growth, but were not suitable for the thrashing of grain, for potatoes, tomatoes, melons, and the curing of tobacco. Corn will be a fine crop; some fodder saving was done at the close of the month. The corn ground is very grassy, and the farmers will have difficulty in preparing it for wheat seeding. Fallow land has broken nicely, and preparation for fall seeding has made satisfactory advance. Peaches have been yielding poor to fair, according to locality; apples will be scarce. Caterpillars appeared in enormous numbers late in the month, attacking the foliage of forest as well as fruit trees.—*E. C. Easton.*

**Michigan.**—The mean temperature was 67.9°, or 0.3° above normal; the highest was 96°, at Grape on the 9th and Stanton on the 15th, and the lowest, 29°, at Thomaston on the 31st. The average precipitation was 2.52, or 0.10 below normal; the greatest monthly amount, 6.46, occurred at Mackinaw City, and the least, 0.42, at Grand Haven.

The month, as a whole, has been favorable, and with the exception of a small area in southwestern Michigan all crops have made good progress during the month. The first half of the month was quite dry and slightly delayed fall plowing; the rains which fell after the 17th greatly revived pasture and improved the soil for plowing. At the close of the month all outstanding crops, principally corn, late potatoes, sugar beets, and beans, were in promising condition.—*C. F. Schneider.*

**Minnesota.**—The mean temperature was 69.8°, or 2.0° above normal; the highest was 105°, at Lake Jennie on the 17th, and the lowest, 32°, at Tower on the 31st. The average precipitation was 2.21, or 1.25 below normal; the greatest monthly amount, 4.65, occurred at Thief River Falls, and the least, 0.68, at New London.

The month was moderately warm, with high temperatures in southwestern portions on the 1st, and generally on the 16th, 17th, 18th, 20th, and 21st. There was a general rain on the 8th with temporary benefit, and more or less scattered showers on the 12th, 13th, 21st, and 24th, and more widely scattered showers on other dates. Some of these were locally heavy. Where the rains were heaviest there was improvement in late corn, late potatoes, pastures, and gardens, and better conditions for plowing. The harvesting of the small grains was finished in the southern half of the State by the 5th. Wheat and oat cutting began in Kittson County on the 1st, but late wheat was still heading in northern counties early in the month. Harvesting progressed steadily, till by the end of the month only the late grain in the extreme north was uncut. Stacking and thrashing followed harvest as rapidly as possible. Corn was seriously injured by the drought, and where it was evident that there would be no grain, it was cut for fodder early in the month, and this fodder cutting has continued during the month. The corn crop is very irregular. Flax is very poor in northern portions, but somewhat better farther south; its cutting and thrashing has been going on all the month. Potatoes are poor in southern fields, but better in those of the north. Plowing has been going on, but generally the work was hard and unsatisfactory. Pastures have suffered severely by the drought, and many cattle have had to be fed. A large wild hay crop was saved during the month.—*T. S. Outram.*

**Mississippi.**—The mean temperature was 80.0°, or about normal; the highest was 105°, at Batesville, Kosciusko, and Water Valley on the 3d, and the lowest, 55°, at Aberdeen on the 2d. The average precipitation was 7.00, or 2.30 above normal; the greatest monthly amount, 14.13, occurred at Louisville, and the least, 0.86, at Nittayuma.

The first half of the month was dry, and temperatures ranged from 2° to 4° above normal. A heavy and general rain fell about the middle of the month, and another light one about the 27th. Cotton was beginning to open at the first of the month, and before the close was being picked generally. Until the 15th the crop did fairly well, especially in the southern part of the State; although there were some complaints of its blooming at the top and being injured otherwise by the continuous drought. The heavy rains of the 14-17th damaged it by causing it to shed and to rot badly, especially in lowlands. However, it improved some during the last week. Early corn was damaged by drought beyond help; but young corn continued to do fairly well, and, although a large amount of it was blown down by heavy winds, before the close of the month it improved materially, and promised a better crop than was at first anticipated. Minor crops did well during the whole month.—*W. S. Belden.*

**Missouri.**—The mean temperature was 78.4°, or 2.3° above normal;

the highest was 109°, at Jefferson City on the 2d and Poplar Bluff on the 3d, and the lowest, 47°, at Bethany on the 31st. The average precipitation was 1.89, or 1.21 below normal; the greatest monthly amount, 6.98, occurred at Sikeston, and the least, 0.12, at Desoto.

Over a few of the extreme southeastern counties the precipitation of the month ranged from 4 to over 6 inches, being considerably in excess of the normal at a few stations, but over much the greater portion of the State it was deficient, a number of the extreme northeastern counties receiving less than 10 per cent of the normal amount. At Keokuk, Iowa, where the observations cover a period of thirty-one years, it was the driest August on record, and at Shelby it was the driest since 1881, the total rainfall for the month at those stations being only .15 inch. During the early part of the month there was a marked improvement in the condition of late corn in the central and western sections, but during the latter half the weather was generally dry, and the crop again suffered a decline. In most sections pastures continued practically bare and much feeding of stock was necessary. Much blue grass, timothy, and clover was entirely killed by the drought.—*A. E. Hackett.*

**Montana.**—The mean temperature was 67.1°, or 1.7° above normal; the highest was 104°, at Glendive on the 16th, and the lowest, 25°, at Missoula on the 19th. The average precipitation was 0.52, or 0.17 below normal; the greatest monthly amount, 1.66, occurred at Glenwood, while none fell at Corvallis and Deer Lodge.—*E. J. Glass.*

**Nebraska.**—The mean temperature was 75.2°, or 2.2° above normal; the highest was 108°, at Agee on the 1st and at Fairbury on the 25th, and the lowest, 41°, at Ansley on the 3d and at Franklin on the 5th. The average precipitation was 2.25, or 0.36 below normal; the greatest monthly amount, 7.19, occurred at Wauneta, and the least, 0.49, at Albion.

The rains of the month improved late corn and pastures. Much early corn was cut for fodder. Considerable plowing has been done preparatory to sowing winter wheat, but little has been sown.—*G. A. Loveland.*

**Nevada.**—The mean temperature was 67.9°, or 1.2° below normal; the highest was 101°, at Mill City on the 1st and at Beowawe on the 13th, and the lowest, 29°, at Elko on the 29th. The average precipitation was 2.03, or 1.58 above normal; the greatest monthly amount, 7.79, occurred at Palmetto, while none fell at Wells.

During the early part of the month the weather was hot and sultry, and up to the 20th the temperature averaged slightly above normal; the latter part of the month was decidedly cooler, the temperature being well below normal. Heavy rains were general and well distributed throughout the State, with frequent cloud-bursts early in the month. Hay and grain harvests were in progress throughout the month, and all crops yielded above the average.—*W. W. Thomas.*

**New England.**—The mean temperature was 68.8°, or 1.7° above normal; the highest was 92°, at Provincetown, Mass., on the 12th and 18th, Norwalk, Conn., on the 21st, and the lowest, 34°, at Woodstock, Vt., on the 17th and 28th. The average precipitation was 4.44, or 1.66 above normal; the greatest monthly amount, 9.37, occurred at Waterbury, Conn., and the least, 1.08, at Durham, N. H.

The temperature and precipitation have averaged somewhat above the normal, but without marked extremes. Some damage was caused by local thunderstorms in parts of the section, but no general or severe storms occurred. The weather conditions were generally favorable for crops, particularly for grass and corn, which are exceptionally good. Potatoes have done poorly in nearly all parts of the section. Apples are a light crop and of poor quality; peaches and other fruits are a fair to good crop and of average quality. Tobacco, which was retarded in the early part of the season by unfavorable weather, has made up a good portion of the delayed growth and now promises a good crop.—*T. L. Bridges.*

**New Jersey.**—The mean temperature was 73.8°, or 1.3° above normal; the highest was 98°, at Vineland on the 10th, and the lowest, 44°, at Charlotteburg on the 2d and 3d. The average precipitation was 9.43, or 5.22 above normal; the greatest monthly amount, 15.62, occurred at Clayton, and the least, 4.88, at Oceanic.

The abnormally heavy rain on the 24th did considerable damage to crops by washing and flooding the lowlands, the valley of the Passaic suffering the greatest damage, where ten thousand acres were submerged and crops almost completely destroyed. The total rainfall for the month is the greatest recorded since the establishment of this service.—*E. W. McGinn.*

**New Mexico.**—The mean temperature was 73.8°, or 1.5° above normal; the highest was 105°, at San Marcial on the 6th, and the lowest, 45°, at Fort Union on the 28th. The average precipitation was 2.37, or 0.16 above normal; the greatest monthly amount, 7.45, occurred at Las Vegas Hot Springs, and the least, 0.01, at San Marcial.

Feed and water on the stock ranges more abundant than usual, and all crops maturing well.—*R. M. Hurdine.*

**New York.**—The mean temperature was 69.0°, or 1.5° above normal; the highest was 93°, at Oneonta on the 21st, and the lowest, 35°, at Axton on the 5th and at North Lake on the 6th. The average precipitation was 5.11, or 1.52 above normal; the greatest monthly amount, 15.36, occurred at Bedford, and the least, 0.94, at Lyndonville.

The temperature and precipitation were generally favorable. Crops

continued to make good growth, with prospects for fine corn and buckwheat crops, a good yield of late potatoes, excellent pastures, favorable outlook for fall feed, a fairly good crop of beans, and plenty of peaches and grapes, but very light apple crop, this fruit being almost a failure in New York State. Oats yielded light, and the wheat crop was largely destroyed earlier in the season by the hessian fly. Hops, sugar beets, and tobacco did well. Plowing for wheat and rye was well advanced during the latter part of the month, and thrashing was progressing.—*H. G. Allen.*

**North Carolina.**—The mean temperature was 76.5°, or 0.5° above normal; the highest was 99°, at Washington on the 9th, and the lowest, 46°, at Linville on the 8th. The average precipitation was 12.18, or 6.38 above normal; the greatest monthly amount, 30.74, occurred at Highlands, and the least, 3.87, at Hatteras.

Most crops improved somewhat during the first decade of August, especially cotton, late corn, and minor crops, such as sweet potatoes, peanuts, rice, and field peas. The weather from the 11th to the close of the month was extremely unfavorable, on account of the heavy and continuous rains, which washed lands badly, caused freshets, and the flooding of low lands, and prevented farmers from carrying on even the most necessary work. The average rainfall, 12.18 inches, is the largest on record since 1872; the total monthly rainfall exceeded 20 inches at seven stations, and over 30 inches was recorded at two points in the mountain region. Cotton suffered materially from excessive rainfall; shedding and rust prevailed almost everywhere toward the end of the month; plants are small, with inferior bolls and short lint; picking began during the last decade. Fall plowing progressed very slowly. All kinds of fruit are inferior.—*C. F. von Herrmann.*

**North Dakota.**—The mean temperature was 66.9°, or 1.4° above normal; the highest was 100°, at Ellendale on the 20th and at Medora on the 26th, and the lowest, 32°, at Larimore on the 8th. The average precipitation was 1.77, or 0.07 above normal; the greatest monthly amount, 4.75, occurred at Grafton, and the least, 0.15, at Berthold Agency.

The weather was generally favorable for maturing and harvesting crops, only slight interruptions being caused by rain at intervals. No severe storms occurred, and while the northern portion was visited by frost, it was not heavy enough to do any damage.—*B. H. Brown.*

**Ohio.**—The mean temperature was 73.1°, or 1.7° above normal; the highest was 101°, at Jacksonboro on the 8th, and Bethany and Camp Dennison on the 9th, and the lowest, 42°, at Orangeville on the 13th. The average precipitation was 3.32, or 0.38 above normal; the greatest monthly amount, 9.06, occurred at Warsaw, and the least, 0.83, at Plattsburg.

Cooler during first half of month. Drought continued until 14th. Corn, potatoes, tobacco, and gardens injured. Rains were frequent during last half of month. All late crops much improved, especially late corn, tobacco, and potatoes. Much plowing done.—*B. L. Waltron.*

**Oklahoma and Indian Territories.**—The mean temperature was 82.2°, or 1.4° above normal; the highest was 112°, at Waukomis, Okla., on the 26th and at Taloga, Okla., on the 26th and 27th, and the lowest, 44°, at Kenton, Okla., on the 19th. The average precipitation was 1.55, or 1.23 below normal; the greatest monthly amount, 3.89, occurred at Fairland, Ind. T., and the least, 0.18, at Holdenville, Ind. T.

Generally fair weather, with high maximum temperatures, becoming excessive toward the close, prevailed during the month. Light to moderate showers fell during the first half of the month, and very light showers during the last half. Cotton suffered considerable damage from premature opening, shedding, and other causes. The crop was opening fast and picking was in progress. Pastures were poor, stock water was scarce, and stock was not doing well.—*Charles M. Strong.*

**Oregon.**—The mean temperature was 68.9°, or 2.3° above normal; the highest was 110°, at Junction City on the 4th, and the lowest, 33°, at Beulah on the 27th. The average precipitation was 0.35, or 0.31 below normal; the greatest monthly amount, 3.00, occurred at Hare, while none fell at Brownsville.

The weather was favorable for harvesting the grain crops, but fruit and vegetables suffered from the drought, which was partially relieved by light showers during the last week of the month. The wheat yields were good and the quality excellent.—*Edward A. Beals.*

**Pennsylvania.**—The mean temperature was 72.0°, or 2.1° above normal; the highest was 99°, at Hawthorne, on the 12th, and the lowest, 42°, at Saegerstown, on the 5th. The average precipitation was 6.81, or 2.64 above normal; the greatest monthly amount, 13.65, occurred at Hamburg, and the least, 2.48, at Lock No. 4.

The weather for the month was favorable for the growth and maturing of crops and general farm work. Showers were frequent, plentiful, and fairly well distributed. The total rainfall was heaviest in the central-eastern portion of the State, and least in the southwestern portion and the Cumberland Valley. Washouts and hail did some damage to crops, but in the aggregate the losses were unimportant. No damaging frosts occurred. At the close of the month, growing crops were well advanced and doing well, and the harvested ones had been secured in good condition. The preparation of ground for fall seeding was well advanced and some seeding had been done.—*T. F. Townsend.*

**Porto Rico.**—The mean temperature was 80.6°; the highest was 97°,

at Manati, Cayey, Ponce, and Bayamon, on different dates, and the lowest, 63°, at Hacienda Amistad on the 5th. The average precipitation was 6.42; the greatest monthly amount, 16.70, occurred at Las Marias, and the least, 2.47 at Ponce.—*E. C. Thompson.*

**South Carolina.**—The mean temperature was 78.6°, or about normal; the highest was 97°, at Allendale on the 1st, and at Greenwood on the 11th, and the lowest, 57°, at Clemson College on the 15th and at Liberty on the 28th. The average precipitation was 9.01, or 2.70 above normal; the greatest monthly amount, 19.32, occurred at Liberty, and the least, 3.23, at Beaufort.

The temperature was equable throughout the month, and favorable to crops. Excessive precipitation over the western half of the State caused some physical injury to lands, floods in the streams, and much damage to crops on bottom lands. Cotton improved on clay lands, where it grew rapidly and fruited well, but reached maturity on sandy lands. Late corn, peas, and sweet potatoes did well. Forage crops grew luxuriantly. A general improvement in all growing crops was noted.—*J. W. Bauer.*

**South Dakota.**—The mean temperature was 72.3°, or 1.0° above normal; the highest was 112°, at Forestburg on the 1st, and the lowest, 37°, at Rochford on the 11th. The average precipitation was 2.52, or 0.33 above normal; the greatest monthly amount, 4.86, occurred at Armour, and the least, 0.30, at Oelrichs.

Very high temperature prevailed over the eastern portion of the State on the 1st, the former extreme maximum temperature at Huron being exceeded by 0.5°. Harvesting of spring wheat, oats, barley, rye, and spelt was practically completed during the first decade, these crops were secured under favorable weather conditions, and generally the weather was favorable for stacking, thrashing, haying, and the healthy advancement of corn, potatoes, flax, and millet. Timely rains kept pastures and range grass in favorable condition. The improvement in corn, especially the late planted, was greater than was thought possible after the damaging heat of July. Damaging hailstorms occurred in the vicinity of Wolsey, Beadle County, and Flandreau, Moody County, at the latter point 2.06 inches of precipitation occurring within an hour. At the end of the month, considerable early corn was ripe and ripening, and cutting was in progress, and considerable late corn was safe from frost, with conditions indicating that with favorable weather the bulk of the corn crop would be safe by September 10th to 15th.—*S. W. Glenn.*

**Tennessee.**—The mean temperature was 75.5°, or 0.4° below normal; the highest was 104°, at Iron City and Pope on the 3d, and the lowest, 45°, at Erasmus on the 2d. The average precipitation was 9.75, or 5.92 above normal; the greatest monthly amount, 16.72, occurred at Decatur, and the least, 3.10, at Union City.

Drought was still prevailing at the beginning of the month, but good rains fell on the 5th and 6th, and on the 10th a remarkable period of rainy weather began and continued, with daily record until the 24th, when there was an intermission of two or three days; then scattered rains fell to the close of the month. This abnormal amount of rainfall, while reviving crops and vegetation generally, was injurious in many sections, flooding districts contiguous to the main water courses, where were some of the most promising crops. The rains came too late to materially benefit the early portion of the corn crop, except in a few favored localities, and much of it has been cut and stacked for winter forage. The late corn was wonderfully improved and gives promise of fair yields. Cotton was benefited by the rains, which caused renewed growth and fruitage; picking was becoming general at the end of the month. Tobacco continued in excellent condition.—*H. C. Bate.*

**Texas.**—The mean temperature was 85.2°, or 2.4° above normal; the highest was 115°, at Haskell on the 28th, and the lowest, 60°, at Amarillo on the 4th, Texarkana on the 12th, and Anna on the 19th. The average precipitation was 0.55, or 1.04 below normal; the greatest monthly amount, 8.08, occurred at Sulphur Springs, while none fell at Fort McIntosh.

The weather during the month was eminently unfavorable to farming interests, and, except in a few favored localities, crops of all kinds were backward. From the Trinity River eastward to the border, in the valleys of the lower Brazos and Colorado rivers, and in southern sections of the Panhandle rain fell in sufficient amounts; elsewhere throughout the State it was very dry, and a drought of almost unprecedented severity prevailed over the central, southern, and southwestern sections. Cotton matured rapidly, and in many cases, prematurely, and picking became general by the middle of the month. Late cotton showed some improvement where rain fell, but considerable shedding

was reported, and much damage was done by rust and boll weevil; in the dry districts this crop was very backward, and by the close of the month was in a critical condition. Corn matured much earlier than usual, and by the end of the month the early planted was being gathered. Rice and sugar cane did fairly well; hay and other forage crops were secured in reasonably good condition; vegetables were scarce.—*N. R. Taylor.*

**Utah.**—The mean temperature was 72.3°, or 2.4° above normal; the highest was 111°, at Fish Springs on the 13th, and the lowest, 31°, at Loa on the 31st. The average precipitation was 1.63, or 1.08 above normal; the greatest monthly amount, 5.07, occurred at Pinto, and the least, trace, at Fish Springs and Kelton.

The rainfall was the heaviest that has occurred during the month of August for many years.—*L. H. Murdoch.*

**Virginia.**—The mean temperature was 74.7°, or 0.5° above normal; the highest was 98°, at Manassas on the 5th and at Stephens City on the 9th and 11th, and the lowest, 43°, at Burkes Garden on the 8th. The average precipitation was 3.86, or 4.79 above normal; the greatest monthly amount, 17.58, occurred at Grahams Forge, and the least, 3.45, at Birdsneat.

There was too much cloudiness and moisture during the month for best results either in crop growth and maturity or in farm work. Plowing and other preparation for fall seeding was also much retarded. Considerable corn was cut, however, fodder saved, and tobacco cut and cured.—*Edward A. Evans.*

**Washington.**—The mean temperature was 67.5°, or 2.0° above normal; the highest was 111°, at Pasco and Hooper on the 15th, and the lowest, 37°, at Wilbur on the 27th and Usk on the 30th. The average precipitation was 0.12, or 0.70 below normal; the greatest monthly amount, 0.67, occurred at Ashford, while none fell at Cheney, Ilwaco, Silvana, Ritzville, Sprague, and Waterville.

The entire month was warm and very dry, with not sufficient precipitation to lay the dust or to materially help gardens, potatoes, pastures, and orchards, which have been suffering very much. Still it was ideal harvest weather, all the crops being secured in prime condition.—*William Bell.*

**West Virginia.**—The mean temperature was 73.6°, or about normal; the highest was 98°, at Wheeling on the 10th, and the lowest, 43°, at Philippi on the 8th. The average precipitation was 5.14, or 1.53 above normal; the greatest monthly amount, 9.92, occurred at Bluefield, and the least, 1.64, at Point Pleasant.

Droughty conditions were quite generally broken during the forepart of August, and crops were greatly revived, but early corn and potatoes had been considerably damaged. Farm work was somewhat delayed by the showery weather, but the rain put the ground in fair condition for fall plowing, and considerable progress was made. Thrashing was generally well along, but the yield was not meeting expectations. Apples were wormy and still falling badly, and the yield will be a light one, except in the Panhandle section; peaches were plentiful, but small and of inferior quality; grapes were rotting and mildewing to some extent, and only a fair crop was anticipated.—*H. C. Voss.*

**Wisconsin.**—The mean temperature was 69.4°, or 1.5° above normal; the highest was 100°, at Medford on the 21st, and the lowest, 34°, at Barron on the 31st. The average precipitation was 1.73, or 1.27 below normal; the greatest monthly amount, 5.29, occurred at Butternut, and the least, 0.25, at Darlington.

There was a general improvement during the month in the crop conditions especially in the southern counties where the drought of July was most severe. Corn that was considered dead recuperated to a considerable extent, and in many localities will make a fair crop. Tobacco is very uneven, good in some localities, in others poor. In the central and northern sections corn and grain crops are good and the hay crop exceptionally heavy.—*W. M. Wilson.*

**Wyoming.**—The mean temperature was 66.6°, or 0.9° above normal; the highest was 102°, at Embury on the 1st and at Bitter Creek on the 2d and 7th, and the lowest, 21°, at Daniel on the 10th and 11th. The average precipitation was 0.95, or 0.11 above normal; the greatest monthly amount, 3.06, occurred at Centennial, and the least, trace, at Leo and Myersville.

The month has been very satisfactory to the farming and grazing interests of the State. The continued warm weather has prevented much damage to gardens by frosts, and at the same time matured the third crop of alfalfa in the southeastern and the second crop in the southwestern portion of the State. Frequent showers have assured abundant stock water in most sections, and have been of great benefit to late gardens.—*L. H. Dangerfield.*